

Quikscat Mission

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The QuikSCAT Mission of the National Aeronautics and Space Administration (NASA) is planned for launch in Spring 1999, reducing the data gap in ocean-wind vector created by the loss of the NASA Scatterometer (NSCAT) on the Japanese Advanced Earth Observing Satellite (ADEOS) spacecraft. The NSCAT instrument ceased functioning when ADEOS failed on June 30, 1997. The follow-on scatterometer for monitoring ocean winds, called SeaWinds, is scheduled for launch on the Japanese ADEOS-II spacecraft in 2000. The Jet Propulsion Laboratory (JPL) has met the challenge to develop and integrate the instrument, ground system, and launch vehicle in less than a year.

QuikSCAT will use pencil-beam-antennas in a conical-scan design which is more compact than the fixed fan-beam design of NSCAT. The antenna will radiate ku-band microwaves at 40° and 46° incident angle and measure the backscatter power across a continuous 1800 km swath. QuikSCAT is capable of providing wind-speed and wind-direction at 25 km resolution over 92 percent of the Earth's ice-free oceans every day, under both clear and cloudy conditions. Standard data products will be delivered to science users within 14-days, and fast data products will be available to operational users within two hours of data acquisition.

QuikSCAT will be managed by JPL for the NASA's Office of Earth Science Enterprise. It will be launched from Vandenberg Air Force Base, aboard a Titan II vehicle. The satellite core-systems was built by Ball Aerospace Systems Division, Boulder, CO. The operation of QuikSCAT is expected to overlap with ERS-2 and SeaWinds. Spaceborne scatterometers have demonstrated a broad spectrum of scientific applications, including weather systems, wind-driven ocean circulation, land vegetation, polar ice morphology and dynamics, and Ocean-atmosphere-ice interaction.